{In Archive} Response to EPA Specific Comments No. 30 and 31 and MDNR Section-Specific Comment No. 87

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02/23/2011 03:43 PM
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1 Attachment

EPA Specific Comment No 30 31 2-23-11.docx

Attached is a response to EPA Specific Comments No. 30 and 31 and MDNR Section Specific Comment No. 87 related to long term effectiveness and permanence of the "complete rad removal" with offsite disposal alternative.

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EPA Specific Comments No. 30 and 31 and MDNR Section-Specific Comment No. 87

EPA Specific Comments

30. Section 6.2.2.3, page 102: This section should mention that even after the radiologically impacted material (RIM) is removed from the site, the site will still be a municipal solid waste landfill requiring a new cap, monitoring system and institutional controls.

31. Section 6.2.2.3.1, page 102: This section should explicitly state whether the calculated risks are from residual radionuclides below the cleanup level, the non-radiological contaminants in the landfill, or both. It may be appropriate to calculate radiological and non-radiological risks separately if both are contributing to the overall risk. Any remaining non-carcinogenic risks should also be identified.

MDNR Section-Specific Comment No. 87

87.) Section 6.2.1.3.1 Magnitude of Residual Risks, page 92 - The document states "After soils are removed from the Buffer Zone/Crossroad Property to below cleanup levels, no residual risk will remain." It is our understanding that residual risk will remain for areas that are left at concentrations above background. This statement also occurs elsewhere within the document.

Discussion

The referenced sections of the SFS will be revised as indicated below.

Proposed SFS Revisions

6.2.2.3 Long-Term Effectiveness and Permanence

Because the RIM above the cleanup standards would be removed from the site, this "complete rad removal" with off-site disposal alternative is anticipated to provide a greater measure of long-term effectiveness than the other alternatives in the unlikely event that the engineered measures or institutional controls fail or the remedy is otherwise compromised. Note this evaluation of long term effectiveness and permanence applies only to the site and assumes there would be no impact to the off-site disposal facility that would receive the RIM, the environment in the vicinity of the disposal facility, or to any communities along the transport route.

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RIM above cleanup standards would be removed under this alternative; however, other solid wastes would still remain at the site and the site would still remain a landfill subject to the applicable requirements for closed solid waste landfills. Therefore, a new landfill cover would need to be installed over the remaining solid wastes after removal of the RIM above cleanup standards. Groundwater monitoring would need to be performed consistent with the applicable or relevant and appropriate requirements for a solid waste landfill. Institutional controls would also be required to ensure that future land uses at the site would be compatible with the presence

of a solid waste landfill and to prevent intrusion into the waste materials, disruption of the landfill cover, monitoring points, or other aspects of the solid waste landfill containment system.

6.2.2.3.1 Magnitude of residual risk

The calculated life time risks from radiological materials that would remain in Areas 1 and 2 after implementation of the "complete rad removal" with off-site disposal alternative are as follows:

- Area 1: 3.9×10^{-11} for year 1 and 1.2×10^{-11} for year 1,000.
- Area 2: 8.2×10^{-11} for year 1 and 2.5×10^{-11} for year 1,000.

Radiological risks are driven by gamma radiation and radon emissions from the residual radionuclide occurrences that would remain after implementation of the "complete rad removal" with offsite disposal alternative. These risk levels are below EPA's target risk range 1×10^{-6} to 1×10^{-4} and would be indistinguishable from background risks. The remaining wastes would be capped and access to and future use of the waste areas would be limited by site access and institutional controls. Therefore, ingestion, inhalation, or dermal contact with the waste materials is not expected to occur. These are the primary pathways through which potential exposure to chemical toxins and carcinogens that might remain after removal of the RIM could occur. Since no complete exposure pathway would exist for chemicals in this contained material, any residual material remaining after construction of the alternative would not be expected to produce toxic effects or carcinogenic risks from the non-radiological constituents present in the solid wastes. The magnitude of the residual risk in these two remediated areas is acceptable. These risks do not specifically include potential exposures from non-radiological landfill waste that may surround the residual material after construction is complete, but those wastes will also be covered by a cap which would prevent exposures. Additional information regarding the risk assessment calculations is presented in Appendix F.

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After soils containing radionuclide concentration above the cleanup levels are removed from the Buffer Zone/Crossroad Property residual risks posed by the remaining radionuclide impacted soil on these properties, if any, would be within EPA's acceptable risk range and may be indistinguishable from background levels.

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6.2.2.3.2 Adequacy and reliability of controls

There is uncertainty as to whether all of the RIM in Area 2 could be removed. There are several areas where RIM is located at substantial depth and two of these areas are located adjacent to the closed demolition landfill or the inactive sanitary landfill. The proximity of these adjacent landfills greatly increases the level of difficulty and the amount of overburden material that would have to be moved to access and remove the RIM. These conditions would increase the

potential for failure of the adjacent landfill units during implementation of the remedy and the potential that all of the RIM would not be removed from Area 2.

As the engineered measures and institutional controls that would be implemented for Areas 1 and 2 under the ROD remedy (landfill cover, groundwater and landfill gas monitoring, and institutional controls) are considered to be adequate and reliable, the same controls should be adequate for the solid wastes that would remain if the RIM was to be removed. O&M requirements for the "complete rad removal" with off-site disposal alternative would be the same as those included in the ROD remedy. No difficulties or uncertainties or need to replace significant components are envisioned for the long-term O&M functions for any of the alternatives.

There is no expectation that any of the remedial actions would need to be replaced, but if this should occur, unacceptable risks are not expected to occur as the site presents only slight risks under current conditions. As the components of final cover would be constructed from natural materials, with properties that limit migration potential, there is a high degree of confidence that the engineered controls would prevent or otherwise be capable of addressing potential problems.

There are a very limited number of possible off-site facilities where the RIM could be disposed and therefore there are uncertainties regarding land disposal. There also are uncertainties regarding the acceptability of the wastes at some of the facilities further limiting the number of facilities that could accept the wastes. At this time only two or possibly three facilities may be able to accept these wastes.

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